



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,559	06/21/2001	Craig M. Conrad	A1085	7270

21495 7590 08/28/2003
CORNING CABLE SYSTEMS LLC
P O BOX 489
HICKORY, NC 28603

EXAMINER

HYEON, HAE M

ART UNIT	PAPER NUMBER
----------	--------------

2839

DATE MAILED: 08/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/886,559

Applicant(s)

CONRAD ET AL.

Examiner

Hae M Hyeon

Art Unit

2839

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2003.
- 2a) ☐ This action is FINAL.
- 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 5-11, 13, 14 and 16-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 5-11, 13, 14 and 16-33 is/are allowed.
- 6) ☒ Claim(s) 34-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Objections

1. Claim 39 is objected to because of the following informalities: In the last line of claim 39, the examiner suggests the applicant to change "optical fiber" to -- optical fibers --. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 34 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsunoda (JP-401138517 A).

Tsunoda discloses an optical ribbon comprising a plurality of optical fibers 1 arranged parallel to one another in a planar array. The optical fibers 1 are arranged into at least two fiber sub-units each having at least one optical fiber (see Fig. 2). An outer matrix covering 4 encapsulating and binding together the fiber sub-units comprises separate regions of a first matrix material 3 adhered respectively to each of the fiber sub-units and a connecting region of a second matrix material 4 joining adjacent fiber sub-units together. Tsunoda teaches that the optical ribbon splits at the connecting region 4 between fiber sub-units. Thus, the first matrix

material 3 adheres to the fiber sub-units with a greater tenacity than does the second matrix material 4 and has a higher modulus of elasticity than the second matrix material.

4. Claims 39 and 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Thompson (6,532,329 B1).

Thompson discloses an optical ribbon comprising a plurality of optical fibers 12 arranged parallel to one another in a planar array and a matrix covering encapsulating and binding together the optical fibers 12. The matrix covering comprises a plurality of different colored regions formed of a first matrix material 22 and 24 and bounded to the plurality of optical fibers 12 for identifying the optical fibers 12, and a second matrix material 18 that intercedes between and maintains the colored regions 22 and 24 separate from one another. It is inherent that the first matrix material 22 and 24 adheres to the optical fibers 12 with a greater tenacity than the second matrix material since the colored regions must stay on the optical fibers 12 to provide identifying information about the optical fibers 12. Each colored region extends to and is bounded to less than all of the outer surface of the respective optical fiber 12 to form part of an outer surface of the matrix covering.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunoda in view of Thompson.

While Tsunoda does not disclose identifying markings visible at outer surfaces of the separate regions of the first matrix material, Thompson discloses the use of identifying markings as recited by claim 35 for providing information about an optical fiber ribbon.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the optical ribbon taught by Tsunoda such that it would have identifying markings on the outer surface of the separate regions of the first matrix material to provide desired information about the optical ribbon.

7. Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunoda (JP-401138517 A) in view of Van Dijk et al (US Patent Application Publication 2002/0048797 A1) and Bonicel et al (5,379,363).

Tsunoda discloses an optical ribbon comprising a plurality of optical fibers 1 arranged generally parallel to one another in a generally planar array. The optical fibers 1 includes at least one adjacent pair 3 of optical fibers are bonded together by a connecting matrix material 4. The connecting matrix material covers less than all of the adjacent pair of optical fibers (see Fig. 2b). However, Tsunoda does not disclose the connecting matrix material having a predetermined color for identifying the pair of optical fiber or a transparent outer matrix covering that encapsulates and binds together the optical fibers and allows visible observation of the color of the connecting matrix material through the outer matrix covering.

Van Dijk teaches that color coding by applying an ink in lines, dashes, dots, concentric circles, bands and the like, or other effective color coding means is known (see paragraph

[0003]]. Furthermore, Van Dijk teaches coloring the matrix materials that form an optical ribbon for distinguishing various ribbon assemblies (see paragraph [0007]).

Bonigel discloses an optical fiber 2 with a color marking 4 on an inner matrix material 3 covered with a transparent outer matrix 5 that allows visible observation of the color marking 4 on the inner matrix material 3 through the outer matrix covering 5. Bonigel also discloses an optical ribbon 10 comprising a transparent outer matrix 11 for visibly observing a color marking 14 formed on an inner matrix material.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the optical ribbon taught by Tsunoda such that it would have colored matrix material as taught by Van Dijk to identify different pairs of optical fibers in the optical ribbon and would have a transparent outer matrix as taught by Bonigel to allow visible observation of the color makings on an inner matrix material and to protect the optical fibers.

8. Claim 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of Fuchigami et al (JP-401200311 A).

While Thompson does not disclose whether the first matrix material to have a higher modulus of elasticity than the second matrix material, it is inherent that the first and second matrix materials of Thompson have different modulus of elasticity because the first and second matrix materials are different materials. In addition, Fuchigami discloses a coated optical ribbon using two materials with different modulus of elasticity to join individual optical fibers. Furthermore, the uses of different material for the matrix covering does not change the function of the optical ribbon itself. Also, the instant invention does not provide any reason or a specific problem to be solved by having different modulus of elasticity for the first and second matrix

materials. Thus, it only deals with the use of a preferred material. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the optical ribbon taught by Thompson such that it would have different modulus of elasticity for the first and second matrix materials as taught by Fuchigami because it only deals with the use of preferred material since the function of the optical ribbon of Thompson would not be affected or changed by the use of matrix materials have different modulus of elasticity.

Response to Arguments

9. Applicant's arguments with respect to claims 34-41 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

10. Claims 1, 5-11, 13, 14, and 16-33 are allowed.
11. The following is an examiner's statement of reasons for allowance: In combination with all the limitations recited in the independent claim, all the prior arts do not show an optical cable comprising an optical ribbon having at least one colored region to denote an identifier for the optical ribbon and another colored region to indicate a type of optical fibers.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP-401138518 A by Tsunoda, JP-401251005 A by Araki et al., and JP-402282709 A by Takahashi et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hae M Hyeon whose telephone number is 703-308-4802. The examiner can normally be reached on Mon.-Fri. (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D Feild can be reached on 703-308-2710. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Any response to this action may be mailed to:
Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

For additional information regarding this new address, which was effective May 1, 2003, see *Correspondence with the United States Patent and Trademark Office*, 68 Fed. Reg. 14332 (March 25, 2003).

Application/Control Number: 09/886,559

Art Unit: 2839

Page 8

Or Faxed to:

(703) 308-7722 or 308-7724

(Informal or draft communications should be clearly labeled "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to:
Crystal Plaza 4, Fourth Floor (Receptionist)
2201 South Clark Place, Arlington, Virginia.

Hae M Hyeon
Examiner
Art Unit 2839

hnh

hnh

Hae Moon Hyeon